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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,311	12/29/2000	Fulvio Arecco	201524US-2	6738
7590	09/20/2005		EXAMINER	
			KIM, DAVID S	
			ART UNIT	PAPER NUMBER
			2633	
DATE MAILED: 09/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/750,311	ARECCO ET AL.
	Examiner	Art Unit
	David S. Kim	2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 May 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 36-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 36-46 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 36-46** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for many of the coupling and connections claimed therein, does not reasonably provide enablement for all of the couplings and connections claimed therein. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. Claims 36-46 appear to be directed to at least Fig. 6, but all the claimed couplings and connections do not seem to properly correspond to at least Fig. 6. Such discrepancies indicate a lack in the scope of enablement required to use the invention, as presently claimed.

Consider the following suggested amendments as potential avenues for overcoming these rejections under 35 U.S.C. 112.

~~(claim 36) the first and second ring networks being coupled to an optical switch unit that wherein each of the first and second nodes includes a plurality of transmitting and receiving transponders including~~

a first transmitting transponder optically coupled to the first optical carrier,
a second transmitting transponder optically coupled to the first optical carrier, and
a third transmitting transponder optically coupled to the second optical carrier,

the plurality of receiving transponders including

a first receiving transponder optically coupled to the ~~first~~ second optical carrier,
a second receiving transponder optically coupled to the ~~first~~ second optical carrier, and
a third receiving transponder optically coupled to the ~~second~~ first optical carrier, and

wherein, under the normal condition, optical switches in an optical switch are configured

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to connect an optical transmitter to the first transmitting transponder and to the third transmitting transponder,
to connect the first receiving transponder to the third transmitting transponder,
to connect the second receiving transponder to an optical receiver, and
to connect the third receiving transponder to the optical receiver and to the second transmitting transponder.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Application No. 09/608,657 as a primary reference:

4. **Claims 36-46** are provisionally rejected under 35 U.S.C. 102(e) as being anticipated by copending Application No. 09/608,657 which has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the copending application (07 July 1999 via U.S. Provisional Patent Application Serial No. 60/142,534), it would constitute prior art under 35 U.S.C. 102(e), if published under 35 U.S.C. 122(b) or patented. This provisional rejection under 35 U.S.C. 102(e) is based upon a presumption of future publication or patenting of the copending application.

Regarding claim 36, Application No. 09/608,657 discloses:

An apparatus, comprising:

a first ring network (outer ring in Fig. 2) having a first optical carrier; and
a second ring network (inner ring in Fig. 2) having a second optical carrier, the first and second ring networks including:

a pair of nodes that comprise a first (node 20c in Fig. 2) and a second node (node 20f in Fig. 2), the pair being coupled along the first and second optical carriers and being operable to manage a subset of wavelengths within a set of transmission wavelengths, the set of transmission wavelengths ($\lambda_1 \dots N$) including more than one transmission wavelength such that one of the transmission wavelengths can be switched (λ_x, λ_y in Fig. 3) while other transmission wavelengths in the set are not switched (bypass wavelengths in OADM 4-5 in Fig. 3), a selected one (e.g., λ_y) of the set of transmission wavelengths may be reserved on the first optical carrier (e.g., ring 2) during a normal operative condition and during a failure (Fig. 9) the selected wavelength is implemented on the first optical carrier, wherein the first and second nodes are further operable to communicate with each other and to communicate along a working path under the normal operative condition (Fig. 2), the first and second nodes being further operable to communicate with each other along a protection path during a failure (Fig. 9) within a selected one of the first and second ring networks such that one or more optical signals are rerouted along the protection path (path between nodes 20c and 20f in Fig. 9) during the failure, and wherein a response to a failure condition is executed on a channel level (original disclosure, p. 7, l. 4-5, p. 8, 1st full paragraph – p. 9, 1st full paragraph), the first and second ring networks being coupled to an optical switch unit (optical switch unit 15 in figures) that includes...(new limitations introduced by Applicant's amendments filed on 02 May 2005).

It appears that these new limitations introduced by Applicant's amendments filed on 02 May 2005 are intended to correspond to the configuration of transponders shown in Applicant's Fig. 3 or Fig. 6. Notice that these configurations are also shown in Figs. 3 and 6 of copending Application No. 09/608,657. Even if Applicant overcame the 35 U.S.C. 112, first paragraph, rejection presented above by incorporating the suggested amendments, claim 36 would still remain anticipated by copending Application No. 09/608,657, with particular attention to Figs. 3 and 6 of copending Application No. 09/608,657.

Regarding claim 37, Application No. 09/608,657 discloses:

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The apparatus of Claim 36, wherein the first and second ring networks are operable to propagate one or more optical signals in one or more transmission channels (note wavelength bands $\lambda_1 \dots N$) included therein, the one or more transmission channels being defined by a set of wavelengths having a predetermined wavelength transmission band.

Regarding claim 38, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the pair of nodes are operable to communicate optical data at first (λ_x) and second wavelengths (λ_y).

Regarding claim 39, Application No. 09/608,657 discloses:

The apparatus of Claim 38, wherein the working path utilizes the first wavelength (λ_x) for optical data propagation on the first ring network (outer ring in Fig. 2) and the second wavelength (λ_y) for optical data propagation on the second ring network (inner ring in Fig. 2).

Regarding claim 40, Application No. 09/608,657 discloses:

The apparatus of Claim 39, wherein the first wavelength is not used during a selected time interval (note that the inner ring in Fig. 2 lacks a λ_x signal, but only when operating without a failure as shown in Fig. 9) on the second ring network for optical data propagation and the second wavelength is not used during a selected time interval (note that the outer ring in Fig. 2 lacks a λ_y signal, but only when operating without a failure as shown in Fig. 9) on the first ring network for optical data propagation.

Regarding claim 41, Application No. 09/608,657 discloses:

The apparatus of Claim 39, wherein the pair of nodes are operable to communicate optical data at a pair of generic wavelengths (λ_x and λ_y) that define a logical ring (p. 18) that may include the working path that utilizes the first wavelength on the first ring network and the second wavelength on the second ring network.

Regarding claim 42, Application No. 09/608,657 discloses:

The apparatus of Claim 38, wherein the protection path utilizes the first and second wavelengths (note λ_x and λ_y on the path between nodes 20c and 20f in Fig. 9) to communicate optical data.

Regarding claim 43, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform add/drop/bypass operations (note OADMs of Fig. 3 in nodes of Fig. 2, p. 19) for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 44, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform an amplification operation (amplifiers on p. 20, last paragraph and p. 21, last paragraph and p. 27, last paragraph and p. 31, last paragraph) for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 45, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform a regeneration (p. 19, last full paragraph) operation for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 46, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first (outer ring in Fig. 2) and second ring (inner ring in Fig. 2) networks define an optical transmission system that includes inner and outer ring networks that are operable to facilitate propagation of optical data in opposite directions (counterclockwise and clockwise in Fig. 2).

This provisional rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. This rejection may not be overcome by the filing of a terminal disclaimer. See *In re Bartfeld*, 925 F.2d 1450, 17 USPQ2d 1885 (Fed. Cir. 1991).

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Even if Applicant overcame the 35 U.S.C. 112, first paragraph, rejection presented above by incorporating the suggested amendments, claims 36-39, 41-44, and 46 would still be provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 09/608,657 in view of Cadeddu.

Regarding claim 36, consider claim 2 of the copending application.

Claim no. in instant application	Limitation in the claim of the instant application	Claim no. in copending application	Corresponding limitation in the claim of the copending application
36	1 st optical carrier	2	1 st optical carrier
	2 nd optical carrier		2 nd optical carrier
	Pair of nodes		Nodes communicating in pairs
	Subset and set of wavelengths		Subset and set of wavelengths
	the set of transmission wavelengths including more than one transmission wavelength such that one of the transmission wavelengths can be switched		exchange optical signals (i.e., switching wavelength usage and arrangement along the carriers),
	while other transmission wavelengths in the set are not switched,		bypass remaining wavelengths,
	a selected one of the set of transmission wavelengths may be reserved on the first optical carrier during a normal operative condition and during a failure the selected wavelength is implemented on the first optical carrier		exchange optical signals using...the second wavelength on the first optical carrier during a failure condition (implies that the second wavelength is reserved on the first optical carrier during a normal operative condition)
	Working path		Working link
	Normal operative condition		Normal condition
	Failure		Failure condition
	Protection path		1 st wavelength on the 2 nd optical carrier and the 2 nd wavelength on the 1 st optical carrier
	<u>Channel level</u>		<u>Channel level</u>
	<u>First, second, and third transmitting transponders</u>		<u>First, second, and third transmitting transponders</u>
	<u>First, second, and third</u>		<u>First, second, and third receiving</u>

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	<u>receiving transponders</u>		<u>transponders</u>
	<u>Optical switches</u>		<u>Optical switches</u>
	<u>The particular connections</u>		<u>The particular connections</u>

Claim 2 of the copending application does not expressly disclose:

A first ring network having the first optical carrier; and

a second ring network having the second optical carrier.

However, ring networks are extremely common and well known in the art. Cadeddu discloses ring networks. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to arrange the first optical carrier and the second optical carrier of claim 2 of the copending application in ring architectures. One of ordinary skill in the art would have been motivated to do this since such an "architecture allows providing protection against line and device failures and against degradation in transmission performance (Cadeddu, col. 1, lines 48-50).

Regarding claims 37-39 and 41-43, consider claim 2 of the copending application in view of Cadeddu.

Claim no. in instant application	Limitation in the claim of the instant application	Claim no. in copending application	Corresponding limitation in the claim of the copending application
37	Set of wavelengths having a predetermined wavelength transmission band	2	Predetermined subset of wavelengths in a set of transmission wavelengths
38	Communicate data at 1 st and 2 nd wavelengths	2	Communicating in pairs, 1 st and 2 nd wavelengths
39	1 st wavelength on 1 st ring network, 2 nd wavelength on 2 nd ring network	2	1 st wavelength on 1 st carrier in ring architecture of Cadeddu, 2 nd wavelength on 2 nd carrier in ring architecture of Cadeddu
41	Pair of generic wavelengths, logical ring, 1 st wavelength on 1 st ring network, 2 nd wavelength on 2 nd ring network	2	1 st and 2 nd wavelengths, exchange of optical signals through 1 st wavelength and 2 nd wavelength, 1 st wavelength on 1 st carrier in ring architecture of Cadeddu, 2 nd wavelength on 2 nd carrier in ring architecture of Cadeddu
42	Protection path utilizes the 1 st and 2 nd wavelengths	2	1 st wavelength on the 2 nd optical carrier and the 2 nd wavelength on the 1 st optical carrier
43	Nodes are able to perform add/drop/bypass operations	2	Each of the nodes comprises optical add/drop multiplexers performing add, drop, bypass

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Regarding claim 44, claim 2 of the copending application in view of Cadeddu does not expressly disclose the first and second nodes being operable to perform an amplification operation. However, it is well known and common for nodes to perform an amplification operation. Cadeddu discusses nodes that perform such an operation (Cadeddu, col. 9, lines 59-64). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate an amplification operation in the first and second nodes of claim 2 of the copending application. One of ordinary skill in the art would have been motivated to do this to recover any signal losses that can occur because of passage through the nodes and the carriers (Cadeddu, col. 9, lines 61-64).

Regarding claim 46, claim 2 of the copending application in view of Cadeddu discloses the first and second ring networks that are operable to facilitate propagation of optical data in opposite directions. However, claim 2 of the copending application in view of Cadeddu does not expressly disclose that these two ring networks define an optical transmission system that includes inner and outer ring networks. Cadeddu discusses such a system that includes inner and outer ring networks (Cadeddu, Figs. 1-2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to arrange the ring networks of claim 2 of the copending application in view of Cadeddu into a system that includes inner and outer ring networks, as taught in Cadeddu. One of ordinary skill in the art would have been motivated to do this since this system architecture provides various benefits, such as protection from failures, and protection means that maintain normal operating conditions of unaffected nodes (Cadeddu, col. 2, lines 8-17).

This is a provisional obviousness-type double patenting rejection.

7. As stated above, even if Applicant overcame the 35 U.S.C. 112, first paragraph, rejection presented above by incorporating the suggested amendments, claim 45 would still be provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 09/608,657 in view of Cadeddu as applied to claim 36 above, and further in view of Ramaswami.

Regarding claim 45, claim 2 of the copending application in view of Cadeddu does not expressly disclose the first and second nodes being operable to perform a regeneration operation.

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However, it is well known and common for nodes to perform a regeneration operation. Ramaswami discusses standard regeneration operations. (Ramaswami, p. 10-11). Ramaswami teaches that regeneration operations comprise converting a signal from optical form to electrical form and back to optical form. Claim 2 of the copending application even discloses the appropriate components to perform regeneration operations (optical transmitter and optical receiver in claim 2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to expressly incorporate a regeneration operation in the nodes of claim 2 of the copending application in view of Cadeddu. One of ordinary skill in the art would have been motivated to do this since there are transmission situations where an optical signal “may not be able to remain in optical form all the way to its destination and may have to be regenerated in between” (Ramaswami, p. 10, last paragraph).

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

8. Applicant's arguments filed on 02 May 2005 have been fully considered but they are not persuasive. Applicant's arguments are based on new limitations introduced by Applicant's most recent amendments to the claims.

First, Applicant's amendments introduce new issues that render the claims not compliant with 35 U.S.C. 112. Accordingly, the claims are rejected under 35 U.S.C. 112. See the section on 35 U.S.C. 112 above for further details.

Second, Applicant's amendments still do not overcome the prior art teachings of copending Application No. 09/608,657. Accordingly, the claims are still provisionally rejected under 35 U.S.C. 102(e). See the section on 35 U.S.C. 102(e) above for further details.

Similarly, Applicant's amendments still do not overcome the double patenting issues between the claims of Applicant's instant application and copending Application No. 09/608,657. Accordingly, the claims are still provisionally rejected under the judicially created doctrine of obviousness-type double patenting. See the section on double patenting above for further details.

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Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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